

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A vehicle tyre having a profiled tread, the tread comprising: tread blocks separated by grooves, said tread blocks being located in at least some regions of a circumference of the tyre, wherein at least some of the tread blocks include tread block edges, wherein at least the tread block edges running into the tyre contact patch and extending at an angle to the central plane of the tyre are lowered over an entire length thereof with respect to the central plateau of the respective tread block, wherein the contour of the tread block boundary surface extending from a start of the lowering up to the base of the groove extends in section planes parallel to the central plane of the tyre in the form of an extended S-curve, and wherein the curvature of the S-curve continuously changes in accordance with an exponential function $y(t)$ along an entire length of the S-curve.

Claims 2-4 (Canceled)

5. (Currently Amended) ~~The A vehicle tyre in accordance with claim 1,~~ having a profiled tread, the tread comprising:

tread blocks separated by grooves, said tread blocks being located in at least some regions of a circumference of the tyre, wherein at least some of the tread blocks include tread block edges, wherein at least the tread block edges running into the tyre contact patch and extending at an angle to the central plane of the tyre are lowered over an entire length thereof with respect to the central plateau of the respective tread block, wherein the contour of the tread block boundary surface

extending from a start of the lowering up to the base of the groove extends in section planes parallel to the central plane of the tyre in the form of an extended S-curve, and wherein the curvature of the S-curve continuously changes in accordance with an exponential function $y(t)$ along an entire length of the S-curve, and

wherein the exponential function $y(t)$ is defined by the formula:

$$y(t) = a (1 - e^{-t/\tau}) + b$$

with a parameter a being an amplitude factor of the exponential function $y(t)$, with a parameter b being a distance between the start of the tread block boundary surface ~~with respect to the tread base at $t=0$~~ and the base of the groove, with a parameter τ being the distance ~~of the~~ between the Y-axis and the intersection of the tangent at the tread block boundary surface at $t=0$ and the ~~Y-axis~~ line defined by $y=a+b$, and with t being the tread block length.

6. (Previously Presented) The vehicle tyre in accordance with claim 1, wherein the tread block edges running out of the tyre contact patch are formed in the same manner as the entry edges.

7. (Currently Amended) The vehicle tyre in accordance with claim 6, wherein the profiles of the entry and run-out boundary surfaces of the tread blocks, which each have a curvature that

continuously changes in accordance with an exponential function, are designed differently with respect to their shape and/or inclination.

8. (Previously Presented) The vehicle tyre in accordance with claim 7, wherein the run-out boundary surfaces extend more steeply than the entry boundary surfaces.

9. (Currently Amended) The vehicle tyre in accordance with ~~claim 1~~ claim 6, wherein the tread block plateau disposed between the entry side and exit side lowerings amounts to approximately 20% to 80% and preferably about 30% to 50% of the block length.

10. (Currently Amended) The vehicle tyre in accordance with ~~claim 1~~ claim 6, wherein the tread block plateau between the start of the entry side and exit side lowering is rectangular or trapezium-shaped in plan view.

11. (Previously Presented) The vehicle tyre in accordance with claim 1, wherein the steepness of the entry side and/or exit side tread block boundary surface differs over their width.

12. (Previously Presented) The vehicle tyre in accordance with claim 1, wherein the depth of the grooves which separate the tread blocks from one another in the circumferential direction of the tyre differs in a pre-determinable repetition sequence.

13. (Previously Presented) The vehicle tyre in accordance with claim 12, wherein a groove of pre-determinable depth is respectively followed by a groove of smaller depth, with a change preferably being provided between a groove of full depth and a groove of half depth.

14. (Currently Amended) The vehicle ~~tyre, tyre~~ in accordance with claim 1, wherein the groove at the entry side defines an angle in the tread entry is disposed with respect to the radial direction in the range between ~~15° and 25°~~ 15° and 25° and the ~~tread run-out angle is disposed~~ groove at the exit side defines an angle with respect to the radial direction in the range from ~~0° to 13°~~ 0° and 13°.

15. (Canceled)

16. (Previously Presented) The vehicle tyre in accordance with claim 1, wherein the turning point of the S-curve is disposed in the lower third of the tread block height.

17. (Previously Presented) The vehicle tyre in accordance with claim 5, wherein the tread block edges running out of the tyre contact patch are formed in the same manner as the entry edges.

18. (Currently Amended) The vehicle tyre in accordance with ~~claim 6~~ claim 17, wherein the profiles of the entry and run-out boundary surfaces of the tread blocks, which each have a curvature that

continuously changes in accordance with an exponential function are designed differently with respect to their shape and/or inclination.

19. (Previously Presented) The vehicle tyre in accordance with claim 18, wherein the run-out boundary surfaces extend more steeply than the entry boundary surfaces.

20. (Currently Amended) The vehicle tyre in accordance with ~~claim 5~~ claim 17, wherein the tread block plateau disposed between the entry side and exit side lowerings amounts to approximately 20% to 80% and preferably about 30% to 50% of the block length.

21. (Currently Amended) The vehicle tyre in accordance with ~~claim 5~~ claim 17, wherein the tread block plateau between the start of the entry side and exit side lowering is rectangular or trapezium-shaped in plan view.

22. (Previously Presented) The vehicle tyre in accordance with claim 5, wherein the steepness of the entry side and/or exit side tread block boundary surface differs over their width.

23. (Previously Presented) The vehicle tyre in accordance with claim 5, wherein the depth of the grooves which separate the tread blocks from one another in the circumferential direction of the tyre differs in a pre-determinable repetition sequence.

24. (Previously Presented) The vehicle tyre in accordance with claim 23, wherein a groove of pre-determinable depth is respectively followed by a groove of smaller depth, with a change preferably being provided between a groove of full depth and a groove of half depth.

25. (Currently Amended) The vehicle ~~tyre, tyre~~ in accordance with claim 5, wherein the groove at the entry side defines an angle in the tread entry is disposed with respect to the radial direction in the range between ~~15° and 25°~~ 15° and 25° and the ~~tread run-out angle is disposed~~ groove at the exit side defines an angle with respect to the radial direction in the range from ~~0° to 13°~~ 0° and 13°.

AMENDMENTS TO THE DRAWINGS

Attached hereto is one (1) sheet of corrected formal drawings that comply with the provisions of 37 C.F.R. § 1.84. The corrected formal drawings incorporate the following drawing changes:

Figures 1 and 2 have been amended to properly identify the distance τ . Figure 2 has been amended to change " $y=8$ " to $--y=a--$.

It is respectfully requested that the corrected formal drawings be approved and made a part of the record of the above-identified application.